

## Abstract

In the rare sugar strategy of Izumoring (Fig. 1), it is intended to establish a reaction system of producing rare sugars of many types by acquiring an isomerase which acts on various rare aldoses and, therefore, is most efficient in producing various rare ketoses. A DNA encoding the following protein (a) or (b). The above-mentioned DNA which is L-rhamnose isomerase derived from *Pseudomonas stutzerii*. A protein comprising the amino acid sequence represented by SEQ ID NO:2. A process for producing a recombinant protein characterized by culturing a host cell containing an expression system that can express the above-mentioned protein in a medium and collecting a recombinant protein having an L-rhamnose isomerase activity from the thus obtained culture. A method of applying Fig. 1 to the production of a rare sugar characterized in that the location of a target rare sugar in the overall picture of monosaccharides is understood and thus the optimum production pathway on which the above protein is allowed to act is designed.